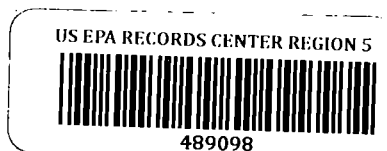




John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director



February 5, 2016

Ms. Shari Kolak
Remedial Project Manager
U.S. EPA Region 5
77 W. Jackson Blvd.
Chicago, IL 60604

RE: Troy Well Field Unknown Source
Remediation Response
Correspondence
Remedial Response
Miami County
555001353004

Subject: Ohio EPA Concerns Regarding Proposed Interim Action and Focused Feasibility Study Approach for East Troy Contaminated Aquifer Site, Troy, Miami County

Dear Ms. Kolak:

The Ohio Environmental Protection Agency (Ohio EPA) Division of Environmental Response and Revitalization is providing concerns regarding proposed changes to the Feasibility Study (FS) and site-wide remedy approach for the East Troy Contaminated Aquifer site in Troy, Miami County. You provided Ohio EPA a summary of potential changes to the FS approach through electronic correspondence on November 4, 2015, November 25, 2015, and January 7, 2016. Ohio EPA provided electronic responses to your summaries on December 7, 2015, and January 12 and 13, 2016. On January 13, 2016, Ohio EPA participated with you on a conference call to discuss the proposed changes and layout concerns with the new approach. As a follow-up to our conference call on January 13th, Ohio EPA is providing the following concerns to assist you in outlining a path forward for the FS and site remedies. These concerns are in addition to the concerns outlined in Ohio EPA's review of the Draft Feasibility Study, submitted on August 21, 2015:

1. Ohio EPA requests that Remedial Action Objectives (RAOs) be generated for the proposed Interim Actions (IAs). The RAOs need to include the contaminant(s) of concern, exposure route(s) and receptor(s) and include an acceptable contaminant level or range of levels for each exposure route. It is anticipated that IA RAOs may be different from the final RAOs. Though U.S. EPA may only want to address areas of highest contamination through the IAs, the IA RAOs should still provide a specific clean up level or range.
2. The RAO for the soil leaching pathway must be developed using a site-specific dilution attenuation factor (DAF). There are three pathways related to soil: soil direct-contact, soil to indoor air, and soil leaching to ground water. RAOs may be developed for each of these pathways, but the final RAO for soil should be the lowest number because the lowest number will be protective of all the pathways.

There has been some confusion in that the risk assessment did not address the soil leaching to ground water pathway. However, an involved forward risk assessment for the leaching pathway is not needed. Rather, what is needed is to answer the question – how much contamination can be left in the soil without it leaching to ground water and causing an exceedance of ground water RAOs? Ohio EPA does not want a ground water remedy implemented that leaves contaminated soil in place at levels that will re-contaminate ground water.

3. There appears to be a misunderstanding on the part of U.S. EPA that only contaminated soils that pose a direct contact threat should be addressed at the site. While soils may not exceed risk goals for the soil direct-contact pathway, they may still leach to ground water and result in an exceedance of maximum contaminant levels (MCLs). Those soils still require remediation.
4. Ohio EPA expects the final remedy for the site to address all complete pathways identified in the Conceptual Site Model. This includes (but is not limited to):
 - a. U.S. EPA has indicated that Exposure Areas (EA) 4 and 5 on the Spinnaker property may not currently be leaching contaminants; however, depending on the site-specific leaching number, they may contain chemicals of concern (COCs) that are above the site-specific leaching number and have the potential to leach in the future and affect future receptors. If that is the case, then Ohio EPA expects that these potential sources will be addressed per the final remedy for the site.
 - b. Ground water contaminated above the MCL site-wide, including at the East Water Street Plume and residual contamination at the Residential Plume, must be addressed per a final remedy for the Site. The aquifer is a federally designated sole-source aquifer that must be restored to its beneficial use.
5. Ohio EPA has concerns with U.S. EPA's proposal of waiting to address the Residential Plume until after a 3-5 year monitoring period proposed for the IA for the highest volatile organic compound (VOC) concentrations (>1,000 ppb) near the suspected source area. Ohio EPA strongly believes that the approach to the Residential Plume should be comprehensive. The VOC concentrations in the Residential Plume downgradient of the suspected source area are upwards of 600 ppb. Because of the high VOC concentrations that would remain in the interim, potential vapor intrusion into inhabited buildings, and also because it has been hypothesized that the Residential Plume is the cause of the detections of contamination in the city of Troy's east production well field, Ohio EPA does not consider it appropriate or necessary to delay remediation of the Residential Plume.

6. The Remedial Investigation (RI) Report and the draft FS concluded that there was little evidence that natural attenuation is occurring at a detectable rate at the site. However, Residential Plume ground water alternatives RGW-1, 2, 3, and 4 and the East Water Street Plume alternatives EWS-1 and 2 all include monitored natural attenuation (MNA) on the residuals of the Residential and East Water Street Plumes. The aquifer currently shows little to no degradation of contaminants and biodegradation would likely need some enhancements. MNA would rely on biodegradation, dilution and dispersion processes. Ohio EPA does not encourage dilution or dispersion as attenuation remedies, which would be the main attenuation processes taking place if conditions are not conducive to biodegradation.
7. U.S. EPA has expressed concern that because of the current source areas and the concentration of the plumes, MNA would not be a viable option under a final Record of Decision. Ohio EPA reiterates that MNA is not a viable option for this site currently, because the data collected during the RI did not demonstrate that natural attenuation was occurring. Although the final ROD may not be able to include MNA due to the current concentration of the plumes and ground water chemistry, MNA could still be evaluated in the future, after active remedies have been implemented on the source areas and on areas of elevated COC concentrations in the plumes. Two current examples of this include the Miami County Incinerator Superfund Site, located approximately two miles from the East Troy site, and the Chem-Dyne Superfund Site, located in Hamilton, Ohio. Both of these sites are conducting MNA pilot studies as concentrations of contaminants in the ground water have reached asymptotic levels and conditions may now be conducive to natural attenuation.
8. The current draft FS proposed to continue to investigate and remediate, as necessary, the vapor intrusion pathway to evaluate occupied structures overlying and near the Residential and East Water Street Plumes as these structures have the potential to be affected by volatile COCs while the source areas and ground water plumes are being remediated. Some 300 buildings have the potential to be impacted, though the current draft FS estimated that only a percentage of these buildings would require mitigation. Ohio EPA is concerned that the proposed IA will delay investigation and, as necessary, mitigation of the vapor intrusion pathway. In addition, remedial activities may significantly change the distribution and concentration of VOCs, further stressing the need to protect residents and workers from this pathway.
9. U.S. EPA is proposing significant changes in its approach to the selection of a final remedy for the East Troy site with which Ohio EPA does not fully understand or agree. As a result, we request that a written explanation and technical justification for this change in approach be provided to document what will be addressed as part of the IA, what will be retained in the final FS, and what will be dropped from the current draft FS. Because a written technical argument for the

proposed change in approach has not been provided, Ohio EPA maintains the positions outlined in the comments that we provided on the draft FS on August 21, 2015.

If you have any questions or would like to discuss the concerns further, please contact me at (937) 285-6456 or Madelyn.Adams@epa.ohio.gov.

Sincerely,



Madelyn Adams
Site Coordinator
Division of Environmental Response and Revitalization

MA/tb

cc: Guy Montfort, Tetrtech
Ray Mastrodonardo, Tetrtech
Tim Fischer, U.S. EPA
Mike Starkey, SWDO-DERR
Allison Reed, SWDO-DDAGW
Erin LeGalley, CO-DERR